RECEIVED
JUN - 8 1992
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies	)	ET Docket No. 92-9

JOINT COMMENTS OF TEXAS WIRED MUSIC, INC.
AND TAFT BROADCASTING COMPANY

Texas Wired Music, Inc. ("TWMI") and Taft Broadcasting Company ("Taft") submit these Joint Comments in response to the above-captioned Notice of Proposed Rulemaking. [1/] In the Notice, the Commission proposes to set aside 220 MHz of spectrum between 1.85 GHz and 2.20 GHz to be used for frequency bands for emerging telecommunications technologies, such as personal communications services (PCSs). The Commission does not propose to relocate Multipoint Distribution Service ("MDS") licensees operating in the 2.15-2.16 GHz band. TWMI and Taft support the Commission's proposal.

TWMI and Taft are licensees of single channel MDS stations operating in the frequency band 2150-2156 MHz (2.150-2.156 GHz), designated as channel 1 by Section 21.901 of the Commission's rules. Both TWMI and Taft are pioneers in the Multipoint Distribution Service, each with over 25 years' experience as service providers. TWMI stations provide background

---

1/ 7 F.C.C. Rcd. 1542 (1992).

music services (MUZAK) to subscribers. Taft provides background music (MUZAK) on some stations and wireless cable (video) services on others. The TWMI and Taft stations are located in ten Texas communities -- Austin, Corpus Christi, El Paso, Killeen (Nolanville), San Antonio, Victoria, Dallas, Fort Worth, Galveston, and Houston.

In the Notice, the Commission proposes to reallocate 220 MHz of the 2 GHz band that is currently used for private and common carrier fixed microwave services to several "emerging technologies" bands. Present occupants of these bands would be able to relocate to other fixed microwave bands or to alternative media through use of a private negotiations approach that would permit financial arrangements between incumbents and new service providers during a 10-15 year transition period.

The Commission observes that the Multipoint Distribution Service occupies the 2.15-2.16 GHz band. [2/] It points out that the Commission's spectrum study -- "Creating New Technology Bands for Emerging Telecommunications Technology" [3/] found that it was not practicable to relocate these MDS services since there are currently a large number of MDS applications before the FCC and the MDS service is a developing industry. [4/]

TWMI and Taft support the Commission's proposal not to relocate MDS channels on frequencies 2.15-2.16 GHz. In comments

---

[2/] Notice at para. 16.

[3/] FCC/OET TS92-1 (January 1992). See footnote 10, Notice.

[4/] Notice at para. 18.

submitted in Gen. Docket 90-314 concerning personal communications services, (a copy of which is appended hereto), TWMI and Taft estimated that the cost to retrofit their equipment to permit operation on new frequency bands would be almost $2.5 million. TWMI and Taft believe that allowing MDS operators to remain on their present frequencies will serve the public interest by avoiding disruptions in service to customers and saving costs to MDS licensees.

TWMI and Taft point out that it is unclear whether the Commission proposes in its Notice to reserve 2160-2162 MHz to MDS operations. Presently MDS channel 2 occupies the 2156-2162 MHz band. The Commission has stated that it is not proposing relocation of MDS licensees on 2.15-2.16 GHz. TWMI and Taft believe that the arguments which support nondisruption of single channel MDS operations extend to operation on Channel 2 and encourage the Commission to clarify that no attempt will be made to relocate MDS channel 2 licensees operating on 2150-2162 MHz or 2.15-2.162 GHz.

In short, TWMI and Taft support the Commission's proposal to permit MDS operations to continue without relocation on 2.15-2.16 GHz.

Respectfully submitted,

TEXAS WIRED MUSIC, INC.

By: Wm D. Balthrope

Wm. D. Balthrope, President
P.O. Box 8278
San Antonio, Texas 78208
(512)223-6383

TAFT BROADCASTING COMPANY

By: _____

Paul Taft, President
4808 San Felipe Road
Houston, Texas 77056
(713)622-1015

June 5, 1992

In short, TWMI and Taft support the Commission's proposal to permit MDS operations to continue without relocation on 2.15-2.16 GHz.

Respectfully submitted,

TEXAS WIRED MUSIC, INC.

By: _____

Wm. D. Balthrope, President
P.O. Box 8278
San Antonio, Texas 78208
(512)223-6383

TAFT BROADCASTING COMPANY

By: _____

Paul Taft, President
4808 San Felipe Road
Houston, Texas 77056
(713)622-1015

June 5, 1992

Exhibit I

Joint Comments of Taft Broadcasting Company and Texas Wired Music, Inc. in Gen Docket No. 90-314 in response to Notice of Inquiry concerning development and implementation of personal communications services.

October 1, 1990

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Amendment of the Commission's	)	Gen. Docket No. 90-314
Rules to Establish New Personal	)	RM-7140
Communications Services	)	RM-7175

TO: The Commission

JOINT COMMENTS OF TAFT BROADCASTING COMPANY
AND TEXAS WIRED MUSIC, INC.

Taft Broadcasting Company ("Taft") and Texas Wired Music, Inc. ("TWMI") submit these Joint Comments in response to the above-captioned Notice of Inquiry. In the Inquiry, the Commission seeks advice on the development and implementation of new personal communications services ("PCSs"), such as cordless telephones and portable radio systems for personal use. Among other things, comment is sought on the feasibility of relocating microwave licensees in the bands 1850-1990 MHz, 1990-2110 MHz and 2110-2200 MHz.

Taft and TWMI are licensees of single channel Multipoint Distribution Service stations operating in the frequency band 2150-2160 MHz. Both Taft and TWMI are pioneers in the Multipoint Distribution Service, each with over 25 years' experience as service providers. Their stations, consisting of one transmit and numerous associated receive sites, are located in ten Texas communities -- Dallas, Fort Worth, Galveston, and Houston for Taft; and Austin, Corpus Christi, El Paso, Killeen (Nolanville), San Antonio, and Victoria for TWMI.

As stated more fully in the attached Engineering Statement prepared by Bernard R. Segal of the engineering consulting firm of Jules Cohen & Associates, Taft and TWMI oppose reallocation of the referenced frequencies. While PCS proponents argue that these frequencies are necessary to an early implementation of PCS technology, this position is based on the fact that PCS equipment, presently in the developmental stages, is configured to operate in these frequency ranges. However, MDS equipment is also configured to operate in these frequency ranges, and MDS is an operating, licensed technology. Every day thousands of customers are served by MDS equipment over frequencies in the 2150-2160 MHz band. If these frequencies are reallocated to PCS use, the MDS services they now provide would be disrupted and implementation of PCSs delayed pending the "reaccommodation" of MDS to a new frequency band.

Moreover, any such reallocation would require retrofitting of MDS equipment at substantial expense -- estimated by Taft and TWMI to be $2,450,000 for their facilities alone. And this figure does not address the cost of abandoning existing equipment, much of it new, with a lifespan of ten years or more. Thus, at a minimum, if the Commission should determine to reallocate the 1850-2200 MHz band to PCS use, the costs to retrofit obsolete MDS equipment should be borne by PCS operators since they would be the beneficiaries of any such reallocation.

Taft and TWMI assert that the more logical and cost effective approach is to require reconfiguration of PCS equipment to the higher frequency ranges. As Mr. Segal states, relocating

lower frequency occupants to higher ranges in order to make way for PCSs is an inefficient "two-step musical chairs approach" to accommodating the frequency needs of the new PCS technology.

Respectfully submitted,

TAFT BROADCASTING COMPANY

By Paul Taft
Paul Taft, President
4808 San Felipe Road
Houston, Texas 77056
(713)622-1015

TEXAS WIRED MUSIC, INC.

By Wm. D. Balthrope
Wm. D. Balthrope, President
P.O. Box 8278
San Antonio, Texas 78208
(512)223-6383

October 1, 1990

JULES COHEN & ASSOCIATES, P.C.
CONSULTING ELECTRONICS ENGINEERS
WASHINGTON, D.C. 20036

ENGINEERING STATEMENT IN SUPPORT OF JOINT COMMENTS NOTICE OF INQUIRY, GENERAL DOCKET NO. 90-314 AMENDMENT OF THE COMMISSION'S RULES TO ESTABLISH NEW PERSONAL COMMUNICATIONS SERVICES PREPARED FOR TAFT BROADCASTING COMPANY AND TEXAS WIRED MUSIC, INC.

The instant engineering statement has been prepared on behalf of Taft Broadcasting Company (hereafter Taft) and Texas Wired Music, Inc. (hereafter TWMI) in support of Joint Comments in the FCC's Notice of Inquiry (NOI) in the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services (PCS), General Docket No. 90-314. The NOI requested those parties submitting comments to address the feasibility of relocating microwave licensees in the bands 1850-1990 megahertz, 1990-2110 megahertz and 2110-2200 megahertz to accommodate prospective PCSs. Taft and TWMI are licensees of Multipoint Distribution Service stations which operate in the frequency band 2150-2160 megahertz in various communities in Texas (Houston, Fort Worth, Dallas and Galveston for Taft, and San Antonio, Austin, Corpus Christi, El Paso, Victoria and Killeen (Nolanville), for TWMI). MDS operators provide point-to-multipoint video and aural transmission services. Taft and TWMI submit these comments since the frequency band 2150-2160 megahertz is among the group of frequencies being considered for reallotment to frequencies above 3000 megahertz to accommodate new PCSs.

In reviewing the comments already submitted by the principal proponents for the adoption of rules governing new Personal Communications Services, i.e., those by PCN America, Inc. and Cellular 21, the prevailing theme is that operation within the proposed frequencies is mandatory to assure early implementation into the marketplace because the equipment that has been developed is for the frequency

ranges in question.[1] For reasons set forth in later paragraphs, the adoption of any plan which requires reaccommodation of a large number of existing users will delay implementation of PCS operations in any event.[2]

The FCC appears to have embraced the concept that early implementation of PCS can only be accomplished on frequencies below 3000 megahertz. According to the NOI (paragraph (20)), "At best, mobile communications are only feasible on frequencies below 3000 megahertz with current technology." That statement is not exactly correct since mobile services currently are accommodated in the 3400-3500 megahertz, 3500-3700 megahertz, 3700-4200 megahertz, 4400-4500 megahertz and other higher frequency bands (see Section 2.106, Table of Frequency Allocations). The technology is available. The issue is whether the proponents for the adoption of PCS rules should be required to reconfigure their equipment for other higher frequency bands or whether existing licensees should be forced to reconfigure their equipment to permit operation at some higher frequency in order to accommodate the particular current design configuration for PCSs on the assumption that an exclusive frequency allocation is to be made.

---

[1] Cellular 21 had requested use of 950-megahertz band employed for aural STL purposes, but the FCC's NOI acknowledges the impracticality of such use.

[2] Moreover, commenting parties are now asked to address matters which may hinge on the results of experiments underway to determine the feasibility of shared use of certain frequencies. That information has not yet been entered into the record. It seems the FCC has placed potentially affected parties in the awkward position of having to take a negative position, in part, because a full and complete record for making reasoned judgements is not available.

Each of Taft's and TWMI's MDS facilities employ a single transmitting location and a multiplicity of receiving locations. The four Taft facilities have more than 1200 receiving sites and the six TWMI facilities have more than 2300 receiving sites.

The transmission system typically consists of either a 10-watt or 100-watt transmitter delivering energy by means of elliptical waveguide to either a single omnidirectional antenna or two orthogonally polarized directional antennas, each with the main lobe directed 180 degrees away from the other. Based on information provided by the principals of Taft and TWMI, each transmitting installation employing a 10-watt transmitter costs in the order of $60,000 and each transmitting installation employing a 100-watt transmitter costs in the order of $80,000. Each receiving location typically employs a high gain receiving antenna, a downconverter, an approximately 50-foot length of interconnecting transmission line, and a receiver. A typical receiving installation, including labor, represents an expense of $500.

If a retrofit to another frequency band would have to be made, the existing capital investment loss for just the Taft and TWMI facilities alone would amount to approximately $2,450,000, based on an average transmission facility cost of $70,000, and receiving installation per location cost of $500, since virtually a complete rebuild would be needed if the facilities had to be operated in a new frequency band. The only items that might be salvageable if a new frequency band were to be employed would be at the receiving locations where the transmission line and receiver might be usable if a viable new downconverter could be developed. However, there is no assurance of the time needed and the developmental costs

involved for new equipment for whatever frequency band ultimately might be selected.

In this regard, MDS service is not feasible on any frequency above 3000 megahertz with current technology, just as is the case for the equipment for PCS proponents. In other words, a sufficient time frame would be required for development of new transmitting equipment for whatever new band ultimately is selected for dislocated licensees currently operating in the 2150-2160-megahertz frequency range. PCS operation could not commence on the MDS frequencies until existing operations are transferred to whatever new band is selected. The development costs for new equipment would ultimately be transferred to users as part of the purchase price for the equipment. A new transmitter, waveguide and antenna(s) would be needed at the transmission end of the path. At each receiving location, a new antenna and a newly designed downconverter would be required, also. Conceivably, a new receiver could be required. It is not possible to gauge to a high degree of accuracy the conversion costs for replacement systems for Taft and TWMI, but it is surely likely to be at least $2,450,000. The costs for retrofitting the Taft and TWMI facilities alone, not to mention the many other similar facilities throughout the United States, would represent an enormous financial outlay and would require a substantial period of time to implement. Hence, on balance, a direct assignment of frequencies above 3000 megahertz for PCS use would better assure early implementation of PCS operations.

Given the established nature of the multitude of MDS systems currently employed throughout the United States, it appears that the more logical and time and cost effective approach is to require the prospective PCS operators to reconfigure

their equipment, which is only in the experimental stage of development, to operate in whatever frequency bands above 3000 megahertz which the FCC may be contemplating for use by current lower frequency occupants (on the assumption that the shared usage experiments prove that such operation is not practical or that a determination is made that an exclusive allocation is desirable). Both PCS and existing MDS providers and, ultimately, the public, would be ill-served by a two-step musical chairs approach to the frequency accommodation issue for PCS use.

Bernard R. Segal, P.E.

Subscribed and sworn to before me this 28th day of September, 1990.

Anne Mazor
Notary Public, DC

My commission expires
October 31, 1991

(SEAL)